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THE

TRUE POLICY OF ORGANISING

A

SYSTEM

OF

RAILWAYS FOR INDIA.

A Letter to the Right Hon. the President of the Board of Control.

BY JAMES WARD, ESQ.,

AUTHOR OF "RAILWAYS FOR THE MANY AND NOT FOR THE FEW:" AND "HOW TO RE-CONSTRUCT THE INDUSTRIAL CONDITION OF IRELAND."

LONDON:

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TO THE RIGHT HON. THE

PRESIDENT OF THE BOARD OF CONTROL.

SIR,

IT is by no means from an apprehension that the Directors of the East India Company may be disposed to neglect the important affairs confided to their administrative care, that I am induced to address to you the following suggestions for developing the vast resources of our Indian Empire. Whatever accusations may from time to time be brought against that honorable body by factious jealousy, and the disappointed ambition of which it is generally the offspring, this will meet with no echo in the following pages. However anomalous may be the constitution of their rule over India, it is not only well adapted to our peculiar relations towards it from its self-denial of all the offensive insignia of foreign conquest and imperial despotism, but in practice it has worked beneficially for the subjects of it. Even Mr. Mill, who evinced any thing but an unscru-

pulous and parasitical regard for the Company and their policy, felt constrained to do justice to the virtue of their intentions and the efficacy of their labors, before he closed his great work on the history of our connection with that country. "The Company," he declares, in summing up the character of their administration, "during their sovereignty have done more in behalf of their subjects; have shewn more goodwill towards them; have shewn less of a selfish attachment to mischievous powers lodged in their hands; have bestowed a more generous welcome to schemes of improvement, and are now more willing to adopt improvement, not only than any other sovereign existing in the same period, but than all other sovereigns taken together upon the surface of the globe."* So just an encomium from so impartial an authority needs no addition or enforcement from me; and I only repeat it that my cordial confirmation of it may dissipate any suspicion of my desiring to cast any imputation upon the deserving objects of it.

But, Sir, although I believe that the Company have ever honestly and disinterestedly studied the welfare of India, there may be some points in which they have overlooked or mistaken it. Few sins of actual aggression can be laid to their charge, but they have perpetuated many errors of finance which amount to unintentional—perhaps they would call it unavoidable—opression. The continuance of the

* Mills's History of British India. Vol 3, p. 49.

salt tax, for instance, by which so large a portion of the fruits of the Ryot's labor is sacrificed to procure the necessary condiment for rendering his insipid food palatable and wholesome; and of the voracious land-tax, which swallows such a lion's share of the whole produce of the country, may be quoted as examples of their fiscal mismanagement. And again, the Company are not always in the same favorable position for attempting reforms and improvements on a large and comprehensive scale. Their charter requires a periodical renewal, and towards the expiration of any given term, they are slow to initiate any great changes of system themselves. They do not know the conditions upon which parliament may consent to re-invest them with power, and are loth to commit themselves to engagements, or involve themselves in a policy which the future tenure of their delegated authority may possibly render injurious or inconvenient. I can hardly impute this to them as a fault. It is natural that, under such circumstances, they should be cautious; and still more so when we remember that so long as they realize the full amount of the dividend to which they are restricted, they have everything to lose and nothing to gain by any venturous innovation upon their established *regime*.

This, however, does not forbid or absolve us from urging them onward in the course of improvement; and it is the more necessary that they should be constantly acted upon by public opinion here, because they are at all times liable to be influenced by the

prejudices of their legislative officers in India. The Direction in England, and even the transitory supreme Head of the government in India, are always more liberally disposed than the Legislative Council at Calcutta, whose long residence in the East, however it may otherwise qualify them for their functions on the score of practical experience, incapacitates them from keeping pace with the more rapid march of intellect at home. I need not go beyond the subject of these pages—the Introduction of Railways into India—for an illustration of this tendency in the Legislative Council to take a narrower and more selfish view of any grand Anglo-Indian scheme for developing the resources of our Asiatic dominions, than we could in justice give any Governor General or Secret Committee the credit of originating.

Let us, Sir, with as much conciseness as the subject will permit, consider, first, what are the *objects* to which the Legislative Council confine themselves in their qualified approval of introducing the railway system into India; and secondly, what are the *terms* upon which they would permit—we cannot say encourage—English Capitalists to avail themselves of the privilege.

The primary and almost exclusive object which they have in view is to render the military defence of the north-western frontier more effectual and economical. They are unable to see a railway in any other light than as a new system of fortification. Strip it of its advantages except as a rapid line of military and other official communication, and they would

vouchsafe it but a very indifferent reception. They do not *deny* that it would be productive of great commercial advantages, but they make little account of them in comparison with their utility as "instruments of Government;" and to this special utility, they make every other consideration secondary and subservient. Mr. Cameron, who seems to be the least frigid of the triumvirate on this topic, "ventures to say, in general terms, that the advantages which a civilised Government will derive from railways in improving the condition of its semi-barbarous subjects, and in resisting the aggressions of its semi-barbarous enemies, are so great, that the Government of India might be very well justified in making railroads for the attainment of them." "*Civilising* semi-barbarous subjects," as an isolated expression, would hold out to us some hope that Mr. Cameron really entertained an enlightened view of the question; but when we arrive at what are his notions of *civilising* a people, we find that he uses the word too much in a literal sense for it to be a liberal one. By civilising people he only means *making them civil.* By civilising semi-barbarous subjects he means nothing more than keeping them in orderly as well as nominal subjection; a very desirable object most certainly, but which falls very short of what, in our conception, the introduction of a system of railways is adapted to accomplish, if planned for such purposes as it ought to be. We expected to hear from him some sound reflection upon, and some fervent aspiration for, the civilising influence of commerce; for of commerce, as of the

arts and sciences, of which it is the parent and protector, it may be said—

"*Emollit mores nec sinit esse feros.*"

But no; Mr. Cameron seems to have no more elevated idea of a civilising process than that of making the law equal to the task of coping with a Thug or Decoit; and as the very *summum bonum* he expects from railroads—beyond their military services—he says, "it may be, too, that judicial circuits, (an object I have always much at heart,) may thus become possible." Thus a railway with Mr. Cameron, beyond its military uses, is chiefly valuable to the Government as an instrument of Police; and its commercial advantages are only desirable so far as they will contribute to support it. Nor is this a mere inference from his language. He explicitly declares this to be the view he entertains. "The principal objects," he says, "of railroads in India, as it seems to me, are political and belong to Government. The commercial advantage, I think, should be looked upon as affording the means by which Government can enlist private skill and capital in this particular service of the State."

That a railway system of communication would be of the utmost service to the Government of India no one can doubt; and for my own part, even as an instrument to facilitate military operations, I estimate it as highly as it is possible for any civilian to do. Even if we could flatter ourselves that our last

victories in the Punjaub would be the last gleanings of that harvest of glory which the native oppressors of India have been so industrious in sowing for us since the first dawn of our political importance in that country, railways would still be of the greatest consequence to the Government. They would enable it to assume an attitude which the vast extent of its dominions has hitherto forbidden, and would not only tend to secure our repose, but would inspire that confidence in its continuance which is such a powerful stimulus to the cultivation of all the resources of peaceful industry. Not only is the attention of the Government distracted, but the minds of the people themselves are unsettled, when their relations with their neighbours are in a state of collision or uncertainty; and, during the excitement or suspense of such a condition, they not only cease to advance, but frequently recede in civilization. All financial improvements are disturbed, and, as every financial pressure is ultimately borne by agriculture and commerce, the strain upon these great mainsprings of national wealth reacts in turn upon the revenue, and cripples and perplexes the policy of the administration. Had it not been for the Affghan war, there would ere now have been a canal from Calcutta to Rajmahl, providing at least an unobstructed line of water communication by steam from the seat of Government to Delhi; nor is it even too much to imagine that the Legislative Council themselves might have had the leisure to acquire such a knowledge of the railway system and its uses as would

have induced them to supersede the contemplated canal by adopting the modern and far more expeditious method of steam transport by land. The Affghan war was only brought to a barren conclusion at last by the waste of seventeen million of treasure, which would have been sufficient to unite together in a triangle of railway communication the three seats of administrative Government, Calcutta, Madras, and Bombay; and, what is almost equally detrimental, it not only rendered the execution of such a great work financially impossible, but we may impute to it also the little progress which the Legislative Council have yet made in the science—for the organization of a system of railways for a nation is a science of the highest order, where they are not planned capriciously and by piecemeal, but as parts of one comprehensive design—which is destined to work a greater revolution for the benefit of mankind than all the conquerors and lawgivers whom the world has ever produced.

I think, Sir, that this is a subject which deserved a somewhat more liberal consideration than the Legislative Council seems to have bestowed upon it, even upon the ground of self-interest. To be sure Mr. Cameron vaguely sets down "the importance of Railways in India for the conveyance of troops and all that troops require" as "incalculable"; but, oriental as this language is, he seems—and especially by the price he is willing to pay for them, which I shall touch upon hereafter—to have but a very limited conception of those advantages after all.

Even Lord Hardinge, whose generosity far exceeds that of his council, though he does not, like Mr. Cameron, confess his inability to calculate the value of them, appears to me to see them "as only in a glass darkly." "In a political point of view," he says, in his minute of July 28, 1846, "the daily delivery of the mails from Delhi to Calcutta in sixty hours instead of eight days—the electric telegraph communicating important orders in a few minutes from one extremity to the other—would give the government great additional powers, approaching to almost ubiquity as compared with the system of *Dâk* runners and *Dâk* travelling. Such a facility would decide the question of the Governor-General and the members of the Government moving up to the frontier; or if it were necessary to move rapidly up, the return would be equally speedy. In a military point of view, I should estimate the value of moving troops and stores with great rapidity would be equal to the services of four regiments of infantry *This reduction of military establishments would be a saving of* £50,000 *a year on the lowest scale.*" But would this be the only saving? Not to ask any thing on the score of humanity, will Lord Hardinge allow nothing for the economy of human life, which a system of railway communications would enable him to effect in the standing army of India. Can the ceaseless marchings, countermarchings, and, when danger menaces the frontier, forced marchings, over almost impracticable roads, and either under a tropical sun or contending with tropical monsoons—can these

hardships be endured without a heavy wear and tear of European constitution? And when repose becomes at last absolutely necessary for the exhausted soldier, how often does he retire only to his deathbed at some pestilential post, where he must per force take up his quarters in order that he may not be at an inconvenient distance from some point of danger. The march and the barracks under these circumstances are on the average more fatal to him than the field of battle; and as his place, whether he falls under the stroke of a torrid sun, or a deadly night-damp, must be supplied just the same as if he had fallen by the sword, the expenditure of human life under the hardships of the service even in times of peace is a serious item in the disbursements of the Government. Every recruit from Europe, I believe, by the time he has joined his regiment in India, has cost the Company about £120; and only a small portion of the mortality arising from the causes I have specified costs more than the 50,000*l.* which Lord Hardinge sets down to the credit of railways for the transport of troops. But these causes of mortality would not co-exist with railways. The soldier would not be harassed by fatiguing marches in which, added to his other laborious duties, he has to perform that of a "beast of burden," dragging artillery, baggage, and stores through unlevelled defiles, uncleared jungles, or undrained morasses. A "rout," even during the calm and leisure of peace, from Madras to Bombay forms a memorable and painful epoch in his military life. He leaves more comrades behind

him on that long and desolating march than subsequently fall beneath the sabre of the insurgent; and of those who enlist for India to return to their fatherland no more, the majority are doomed to this grievous and inglorious fate. A railway, on the contrary, would transport him from one presidential seat to the other, with all the equipments for a campaign, in less than a day-and-a-half, and he would go as fresh into the battle field, as an exquisite into a ball room. "When the Lancashire Yeomanry," says Lord Hardinge, "were moved to Birmingham, they completed 120 miles in three hours, (at this rate a movement from Madras to Bombay would only occupy eighteen hours, instead of as many weeks), rode their horses quite fresh to the scene of disturbance, and being again at their homes on the following day. In this country (India) where no man can tell one week what the next will produce, the facility of a rapid concentration of infantry, artillery, and stores may be the cheap prevention of an insurrection, the speedy termination of war, or the safety of the empire." What a costly expenditure of human life would be thus spared the Company! Their standing army, instead of being exposed as a merely defensive force to the attacks of native audacity and blood-thirstiness, would rather partake of the character of a peaceful but overawing preventive police. There would, moreover, be no longer the deadly necessity of quartering them for rest in pestilential situations, on account of their proximity to points of suspected security. In short, the probable duration of the soldier's life, and there-

fore his money-value to the Company, would be at least doubled by the relief which the introduction of railways would afford him.

When, therefore, we look to the *terms* upon which the Legislative Council would invite the capital of England to the construction of Indian railroads, we observe with regret that they do not fix a sufficient value even upon the obvious *political* advantages to which they consider that they should *ex officio* confine themselves. To bring Calcutta, as the seat of Government, within eight-and-forty hours journey from the only frontier upon which hostilities can be apprehended, in a military point of view alone, would be worth more to the Government than the whole cost of constructing a railway between the modern and ancient seats of Indian empire. But is it just, is it even wise, for a protectoral Government to legislate for its own convenience alone? Should not some care for the welfare of their tributary subjects, under any circumstances, also enter into their thoughts; and should it not more especially do so, when they reflect upon the delicate and singular manner in which the interests of their subjects are identified with their own? The Government of India are in the difficult position of maintaining taxation much beyond the maximum rate consistent with an increasing productiveness of revenue, and yet deriving a revenue insufficient for its scale of expenditure. The vigorous economy of Lord Hardinge may for a season effect a more pleasant approximation between the expenses of the Government, and its ways and

means; but what security is there that this equilibrium can be preserved even by the firmest hand, "in a country where no man can tell one week what the next may produce?" No sooner is the Punjaub difficulty seemingly off his hands, than Akbar Khan becomes a fresh source of suspicion and anxiety; nor is there any prospect whatever of Northern India ceasing to be a hotbed of contentions, insurrections, and revolutions, in which we are compelled to take a very disagreeable interest. And what resource have the Government for any extraordinary expenditure? None, under their present system of internal economy, except to borrow, and thus to relieve their temporary by augmenting their permanent embarrassments. Their land-tax and their salt-tax are already pushed to a suicidal amount, the one defeating its own object by crippling production, and the other by restricting consumption. The Company are puzzled by the anomaly of their own position, with an oriental dependency, possessing a population five times as great, and capable of raising ten times as much produce as those of the sovereign kingdom in the ungenial West, and yet unable, without fainting under the exaction, to yield half as much revenue; but the solution of the enigma is, that they have attempted to reconcile a scheme of civilization with the fiscal policy of a most barbarous despotism. The whole tendency of the financial system, which the oppressors whom they displaced seem to have left as a posthumous curse upon the fertile regions which were destined to be no longer ravaged by their despotic rapacity, is *to dis-*

courage industry by robbing it of its reward; and yet native industry is the great instrument by which directly or indirectly all their wealth is produced. To be sure the natives of India have almost been stereotyped as indolent and apathetic; but can we wonder at their aversion to labor, while it is their unhappy lot to labor more for others than themselves? Can we wonder that the indigenous staple products have been fast disappearing, while the burden of government assessments has rendered their production unprofitable? If even in this country, where both labor and capital are ever on the look-out for employment, the cultivation of the soil has been discouraged by the collector of tithes, can we wonder that the spirit of agricultural improvement has been almost banished from the cotton grounds of India by the visitations of the government collector of imposts more than trebly, and in some instances more than sevenfold, as exorbitant? Can we wonder at the experiment of importing improved processes in the preparation of the staple, for manufacture in Europe, has met with such indifferent success? Let us see what General Briggs says on this subject, referring to no less an authority than one of the Directors themselves.*

"The tract of country from whence we at present derive our largest supply of Indian cotton is Guzerat, and the article is called Surat, after the capital of the province and its principal port, and there seems good

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* Francis Warden, Esq., late Chief Secretary of the Council of Bombay.

reason for supposing that this province on the whole *is less heavily taxed than any other of the cotton growing districts.* * * And yet in Guzerat, the cotton estimated at 2½*d.* per pound, which is 40 per cent. more than its value at Dharwar (in the Southern part of the Mahratta country), will sell for *twenty-one shillings* per acre, from which if we deduct *sixteen shillings* for tax, we have scarcely more than 25 per cent. of the sale produce to pay the expenses of cultivation, and to return the interest of capital, while the Government receives 75 per cent. of the whole produce as the tax! The merchants of England, it is clear, cannot look to this Presidency to grow cotton profitably under such imposts. Better would it be for them to go and reside under the government of the Nizam, in the midst of the great cotton field of India, and trade in the indigenous article, than attempt the growth of American cotton under such a government as ours. * * An enterprising native merchant of Bombay has been residing for the last five or six years at Hydrabad, purchasing and transporting, on oxen's backs, to the sea coast, the cotton grown in Berar, through our more contiguous districts where it cannot be grown at a profit. What a reflection is this on an European administration denominated enlightened!"

Four-fifths of the produce are thus appropriated as tribute to the Government! They may call it *rent* if they like; but there is not an acre in England, in spite of our industrious habits and passion for enterprise, which would not be driven out of cultivation if

saddled with such a rent as this. It ill becomes us, therefore, to reproach the natives of India with a want of industry, when we deprive them of every natural incentive to it. It is not much that he requires to stimulate him to activity, for the wages of labor do not exceed 50*s.* a year; but in Bellary, the farmer would at this rate require the surplus produce, after the tax was deducted, of *one hundred acres* to pay for the services of *one pair of hands!*

I am willing to suppose that the necessities of the Indian Government will not permit them to dispense with this enormous impost, though every principle of political economy suggests that they might mitigate it with advantage to themselves. Our own fiscal reductions would lead us to the conclusion that a less per centage upon an enlarged production would bring more revenue than so monstrous a tax, for though the Indian laborer may scratch the land over to raise from it a bare subsistence, his labor will not be facilitated and stimulated by the application of capital to agricultural occupations. He will toil so far as to procure a supply of the meanest species of food, but not to produce articles of commerce by which he might obtain luxuries in exchange; and this grovelling spiritless kind of industry must be as detrimental to the Government, who claim such a large share in the fruits of his labor, as to himself. But be this as it may—supposing that there are insurmountable objections to the mitigation of the tax—one would suppose that the government would, for their own interest, hold it a point of the very first importance to do every

thing that would better enable him to reduce it. There is only one consideration which can spur him to increased exertion, and that is an increased reward for it. If the Government could by any means render that portion of his produce which they condescend to leave him for himself more *valuable*, either by increasing its amount or enhancing the price he can obtain for it, they would, of course, be promoting not only *his* pecuniary advantage, but in a still greater degree their own. The same mutual benefit would also result if they could devise any means of diminishing the cost of production, in which the expense of transporting his produce to the best market for it, or the port of shipment, forms in India so very serious an item. Now the present cost of conveyance in India acts to a great extent as a direct prohibition upon producing many articles for exportation. It amounts at the least to seven pence per ton per mile; and would leave no return whatever for the producer, if the distance from the shipping port bore more than a certain proportion to the value of the article there per weight. Thus, the carriage of goods from Nagpore to Bombay is at least 15*l* per ton, or about 1½d. *per pound*, and would absorb so much of the value of any article, such as cotton, the price of which bears a small proportion to its bulk, that, except for home consumption, it could not be grown at all. A ton of cotton is the average produce of twenty acres, and its value about 23*l* 6*s* 8*d*—such an article would not bear a charge of 15*l*. per ton carriage to the coast; but by railway, at 2*d per ton* per mile the carriage would be

only 4*l* 3*s* 4*d*, and an unlimited exportation of it might be effected at a profit.*

The Legislative Council of India should, therefore, in estimating the value of a railway system of internal communication, have had an eye not only to their military tenure, but to their fiscal administration of the country. Bad as their fiscal system is, it has at least one merit—the augmentation of their revenue under it is not only compatible with, but also dependent upon the resources of the country, by furnishing it with larger facilities for commerce. It is justly remarked by a correspondent of the *Times* on the 4th ult., "that the revenue of India is chiefly derived from the land, and must be proportionate to the extent of cultivation." This is obvious; "but," he continues, "in many fertile and extensive districts, not half of the cultivable land is cultivated, and that which is cultivated probably does not bear half the crop it ought to do. It is capable of distinct proof that this state of things arises from the fact that the surplus from those districts cannot be exported to profit (and therefore is not raised) because of the enormous cost, delay, damage, and insecurity of the present modes of conveyance. No roads, and little produce; little produce, and little revenue; little revenue, and frequent

* The reader is referred to a very able article on this subject in the *Morning Chronicle* of the 8th of March. Mr. Bright is about to move for a committee to inquire into the subject, at the instance of the manufacturing interest; and the result of such an inquiry, we have no doubt, would be highly beneficial to this country and India, without being at all prejudicial to the Company.

loans and high interest." Such is the chain of causes and effects in India, its backwardness in every respect; in agriculture, trade, commerce, and fiscal productiveness, being clearly traceable to one great fundamental defect—the want of roads adequate to its vast capabilities of supplying all the western world with the choicest products of the Tropics.

"The principal objects of railways in India are, it seems to me, political objects, and belong to Government. The commercial advantages, I think, should be looked upon as affording the means by which Government can enlist private skill and capital in this particular service of the state." So says Mr. Cameron; but we can assure him that private skill and capital are not to be so cavalierly pressed into a service so avowedly selfish. Private skill and capital have objects of their own, as well as the Company; and will have as little regard for the Company's objects, as the Company professes to have for theirs. Capital, more especially, is but a very indifferent respecter of persons or things. It will ask, not how much it may save to the Company, but how much it can gain for itself. A satisfactory estimate of goods traffic would have a greater attraction for it, than the most flaming prospectus of mere "political advantages." If British capital is ready to embark in the construction of railways for India, it is not influenced by the patriotic desire of fortifying or economising its military administration, but by its high appreciation of the commerce which railways would evoke from its industrial slumber of ages. To improve the natural

resources of India by investing it with European facilities for commerce should on every account have been the first and leading object of the Legislative Council, in organising a scheme of railway communication; and they should be content with regarding its military advantages rather as fortunate incidents, than as primary essentials, to it.

Some persons may imagine that, so long as India does obtain railways, it can make no difference by what motives the Government is chiefly influenced in sanctioning their introduction. But it does not follow that the best military line and the best commercial line must in all cases be identical; and still less does it follow that the same principle of construction and the same system of management would be the most eligible for both. The Legislative Council themselves seem to be fully aware of this; and to reserve the power of controlling the construction and management of Railways, in conformity with the special objects of the Government, is one of the terms which they demand from British capitalists for the privilege of undertaking them. "We agree with Mr. Simms," they say in their report to the Court of Directors, dated May the 9th, 1846, "that it is necessary to secure to the Government or the servants of the Government a perfect control over the plan and construction of rail-roads, but it is not possible beforehand to decide on any matters of detail that will be required to be regulated by bye laws when the roads are completed. Mr. Simms proposes that the rules and regulations, or bye laws necessary for the manage-

ment of railways, should be submitted to Government and receive its sanction before the lines are opened; this is certainly desirable, but we fear it cannot be done at present." *I* fear that this condition, coupled with their obvious partiality for the military, to the prejudice of the commercial, character of railways, will tend to damp the ardor of British capitalists for executing them.

The capitalist will of course be decided by only two considerations—the cost to be incurred, and the probable amount of profit. Now amongst other stipulations suggested by the Legislative Council, one is that there "be reserved to the Government the power of becoming the proprietor of the railways on settled terms at the expiration of a certain period," and Mr. Simms went so far as to propose that they should then "be delivered over to the Government in a good and substantial state of repair *without payment.*" This, however, was too outrageous even for the Council; but the President required that the Government shall be put in possession of them, with all their carriages, trucks, implements, &c., after the lapse of 25 years, paying to the Railway Companies thereafter only *three per cent.* upon their paid up capital. The Council claim also another contingent reversion in them. They offer to supply the land to Railway Companies gratuitously, and in consideration thereof, contend that "it should be an express stipulation, that in case of failure in completing a railway, the works and the materials shall be forfeited to Government," and that even after completion, "any gross irregularities

amounting to a complete failure in performing the conditions agreed upon, shall be attended with absolute forfeiture."

Now as the Government by these propositions will at least become the proprietors of any given railway at the end of 25 years by paying the shareholders *three* per cent. upon their paid up capital, and as the probability of an Indian Railway paying at least *ten* per cent. before the expiration of that term amounts as nearly to a certainty as any event in the future progress of a country can do, it follows that the bargain for which the Government are really stipulating is, that at the expiration of 25 years they shall be admitted the proprietors of a *seven-tenth's* interest in the property of the railway without any consideration whatever, except that of having supplied the land, which according to Lord Hardinge would not cost more than 200*l.* per mile, to the shareholders at the outset gratuitously. In passing we may observe that our Government at home have dealt with Railway Companies in a very different spirit; for by 7 & 8 Victoria, cap. 85, the price to be paid by the British Government for a "Railway with all its hereditaments, stock, and appurtenances" at the end of 21 years is a sum equal to 25 years purchase of the *annual divisible profits*, estimated on the average rate of profits for the three years immediately preceding the purchase; and if the average rate of profits for those three years be less than ten per cent., and the shareholders shall be of opinion that the rate of 25 years purchase of those average profits is an inadequate rate

of purchase, they may require it to be left to arbitration, in case of difference, which shall determine what (if any) additional amount of purchase money shall be paid to the shareholders." And let us see in what different positions the shareholders of a British and of an Indian line are to be ultimately placed, assuming each line to be paying ten per cent. per annum on its paid up capital. Ten per cent. on the paid up capital is one-tenth of that capital, and the shareholders of a British line are to receive, therefore, as the purchase price from the Government, a sum equivalent to 25 tenths of such capital, which is tantamount to a *bonus* of 150 per cent. upon it. The shareholders of an Indian line on the contrary are only to receive an annuity of 3*l.* on every 100*l.* of their paid up capital, and as such an annuity, calculating the interest of money at five per cent., would only realise 60*l.*, it follows that when they come to transfer their property to the Government, they will virtually be suffering a *deduction* of 40 per cent. from it. I wonder how the Legislative Council could conceive that British capital would accept such a strange invitation to abandon railway enterprise at home, where there is still such a wide and improving field for it, for the construction of railways in India. Lord Hardinge seems to have a better, but still inadequate, idea of the business. His Lordship says, in the minute already referred to, "I am confident that English capitalists will not, without more information on these points, and *more substantial encouragement from the East India Company, enter into the speculation;*" but then his liberality is only on

the scale of contributing one million to the construction of such a line as that from Calcutta to Delhi, which, according to the plans and estimates of the East India Company's own engineers, would cost at least 15 times as much.*

But to return. The Indian Government securing to itself so large a reversionary interest as seven-tenths in the profits of Indian railways, or to put it in the other form, bargaining for the ultimate confiscation to itself of so large a portion of the shareholders' paid up capital as 40 per cent., it is obvious, that, in addition to their inclination to sacrifice the commercial to the military advantages of a line whenever they happen not to be identical, they will require the construction of their railroads to be executed on a principle of the greatest *durability*, without reference to the *cost*. At least their own supposed interest, as explained by the conditions which the Legislative Council propose, would induce them to do so; and this interest, therefore, which is not their *real* interest, as they will find when they are ready to sanction the commencement of the great work, is diametrically opposed to the palpable interest of the British capitalist. It is my conviction that, as the construction of railways in India must at first to a certain extent

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* Supposing the distance to be 1000 miles; the capital required would, at 15,000*l.* per mile, be 15,000,000*l.*, of which the Government would have 7-10ths or 10,500,000*l*, in reversion at the end of 25 years, when the 200,000*l.* paid by the Government for land would only have accumulated at 5 per cent. to less than 700,000*l.*

be regarded as *experimental*, it would be prudent at the outset of the experiment to aim at *economy*, rather than *perfection*, in their construction. In the first place, railways in India, as instruments of commercial communication, would not be rendered remunerative by the mere isolated traffic between points in the interior. To insure their working to a profit, they must be *thorough* lines, through the rich and populous districts of the interior to some port of shipment, of which there are but few, on the whole coast of our Indian dominions; and Governmental considerations would suggest that those thorough lines should have their termini at extreme opposite points on our frontier, whether both sea-board, as at Madras and Bombay, or inland and sea-board as in the case of Ferozpore and Calcutta.* Minor lines to the interior should afterwards fall into these to feed and be fed by them. Now we must remember that the shortest of these thorough lines, that from Bombay to Madras, would be almost as long as a line intersecting the whole kingdom of Great Britain in the direction of its greatest span; and if we set about constructing such a work at once as a *monumentum ære perennius*, after the fashion of the great mural road of China, the time and capital required for its completion would have a very forbidding effect on speculation, and

* The only exception to the principle laid down here is the line from Calcutta to Bombay. An arm from the Great North Western line at Mirzapore or Agra to Bombay, would be almost as expeditious, and afford greater accommodation at much less expense.

especially with the condition of absolute forfeiture in the event of any interruption to its progress. I think that in this respect we might with great advantage profit by the example of the Americans. They are not deterred by the length or difficulty of a line, but will rapidly run a railway over swamps, creeks, rivers and mountains, and through a country which can hardly be yet considered an inhabited one, because they at first lay down a cheap experimental line, and postpone the construction of one on the European scale of solidity and permanence, till the ascertained traffic will justify the expenditure, and command the capital at a moderate rate for its execution. There is much business-like caution, and financial wisdom in this plan; and the economy which they are able to practise in their initiatory process of railway construction will appear truly astonishing. I will give a sample or two from the American railways between Utica and Syracuse.

"This is a continuation of the Utica and Senechtady Railroad, and forms part of the great line of railroad communication between Albany on the Hudson, and Buffalo at the north-east corner of Lake Ontario, near its outlet by the River Niagara. Commencing at Utica, on the River Mohawk, the railroad passes in a north-westerly direction along the upper valley of the Mohawk until it enters Rome; on leaving Rome its further course is at first to the south-west, in which direction it crosses the Oneida Creek, one of the principal feeders of the Lake Oneida. Throughout its entire course this railroad runs parallel with

the line of the Erie Canal, which it crosses twice, first on entering Rome and again on leaving that place. Its length is $52\frac{71}{100}$ miles, of which distance piles were driven $19\frac{26}{100}$ miles, and $33\frac{74}{100}$ miles were graded by excavations and embankments in the summer of 1836. The superstructure was laid in the spring of 1837, and the road was finished in July of the same year."*

We find that the whole cost of this line amounted to very little more than 3700*l.* per mile, although nearly two-fifths of it was over a swamp, into which piles had to be driven for a foundation to a depth varying from six feet to sixty! This part is called a "Pile Road," the piles being driven by a steam locomotive machine, which, as soon as it has driven home any two piles in the parallel rows, passes over them to repeat the same operation forward. The cost of this machine was not much more than 400*l*, and it is remarkable that the superstructure upon the piles cost only 6565 dollars, or somewhat less than 1370*l.* per mile. The remainder, or more than three-fiths, of the whole expenditure was for earth works; whereas, in England, it is the cost of the superstructure which so enormously swells the account for materials and labor.

"Extensive utility, economical construction, and immediate returns—these are the great desiderata of

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* From Wheal's "Ensamples of Railways," a work of the highest value to the professional architect, and without which we should consider no private library complete in that department of science.

American engineering. A country so wide, and in immediate want of so many new lines of communication, cannot squander the millions at its disposal on the embellishment of a single line. To make a canal or a railway so comprehensive, and with works so gigantic as for ever to supply the demands of commerce, and supersede all possible improvement,—works that shall endure for ever, and hand down the name of the constructor to posterity—such is often *our* aim; and here the permanence of works is often of the highest importance. There, on the contrary, the delay of a single year in the completion of the undertaking, the necessity for additional millions, the delay of returns for money expended, — these in America are evils of the first class, which, if incurred to a considerable extent, would prove inevitable bars to the progress of the most important engines of commerce, wealth, and civilisation."*

In the above passage for America read India, and every word will apply with still greater force. Railroads, as commercial engines, are more required, and speculations are more tempting in India than in America; and India has, moreover, this great advantage, that while labor in America is dearer, in India it is probably cheaper, than in any part of the world where hired labor is known.

But it may be said, why construct a railway of only a temporary character if you have any confidence

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* From an able article in the Athenæum, Dec. 25, 1841.

that it will ultimately pay for the expense of a permanent one? This sort of reasoning implies the assumption that cheap construction for permanent purposes must always be the dearest in the end; but that is only a very old mistake into which people fall who do not reflect upon the value and uses of money. We will correct it by quoting again from the writer in the Athenæum, for to him, we believe, the credit of first exposing it is due:—

"Why," says he, "should public works last for ever? This is an all-important question which has not been fully weighed. The reply is something startling—it is pretty nearly this: if a structure will endure for twenty years, and cost a given sum of money, it will be cheaper in the end than a structure which would last for ever, if it should cost double the first. The Americans found out this long ago, and even here the more shrewd of our capitalists have already begun to make a similar discovery.

"Suppose a question to be agitated regarding a new line of railways, whether the bridges shall be of timber or stone; that is to say, whether they shall cost 100,000*l.* or 300,000*l.* which is about the proportion, the one to last some twenty to twenty-five years without repair, and the other for ever and a day. Perhaps this question involves the very existence of the railway: perhaps in the one case it will repay a fair interest on the smaller capital, and in the other case it will not. The question, whether the district shall have a railway or not, may depend upon this question. Let us look at the result, thus:—The timber bridge

costs 1000*l.*, the stone bridge would cost 3000*l.* Suppose this sum of 3000*l.* in the hands of the proprietor, and he prefers the timber bridge at 1000*l.* placing the remaining 2000*l.* in the funds. At the end of 20 years, he finds the accumulated interest has not only doubled his capital of 2000*l.*, and made it 4000*l.*, but has also paid for the painting and slight repairs of the bridge; and with his 4000*l.* he may now build, if requisite, a new timber bridge, at the expense of 1000*l.*, and replace untouched the whole of his capital. And in like manner it will follow that a timber bridge costing only half of a stone one, and lasting only 20 years, will be cheaper in the end than a stone bridge lasting for ever; because the other half of the capital thus saved would in 20 years more than double itself, or reproduce the whole sum of the original investment."

We must remember, Sir, that the amount of capital which England can provide for the construction of railroads in India is not *unlimited;* and I think that, whatever it may prove to be, it ought to be made to go as far as possible, and not all to be expended in carrying out one line to the utmost pitch of perfection, for two reasons. In the first place, the materials of which a line is composed have no bearing whatever on the traffic it can command, or, in other words, on the *gross returns* it will obtain; while the net profit per cent. will bear an inverse proportion to the amount of capital required; and should this net profit turn out less than the average net profit for such investments in England, depend upon it you will have

no more English capital emigrating in quest of them to India. In the second place, the net profits of railways in India must be comparatively small at first, for the industry of the country will not awaken, neither will European capital and skill step forth to direct and animate it, all at once; and railways will not fully participate in those advantages, which they will contribute so much to create, until after that probationary period which is always required for the establishment of a new system of industrial economy. It would, therefore, be injudicious to impose upon railway companies in India a maximum of expenditure for construction at the commencement, but rather to start upon the American principle of economy. If thirty millions could be raised for the construction of Indian railroads, I would much rather see 6000 miles executed at 5000*l.* per mile, than 2000 at 15,000*l.* per mile. The cheaper and temporary system of construction would, in the first instance, be sufficient to set the industry of the country in motion, and create a large and extensively ramified traffic, and thus to provide the ways and means for its own improvement into a more costly and durable one hereafter.

The means, however, of the Legislative Council are quite inconsistent with the policy I have pointed out; and I trust, therefore, that the Imperial Government, of which in these matters you are the representative, will interpose their influence and mediation with the Directors, to prevent an obstinate and fatal adherence to them. And there is another reason, Sir, of the

greatest weight, both politically and commercially, why it should interpose in this matter at once.

I have said that the Legislative Council should not have directed their attention to the political advantages incident to a system of railway communication alone; but I may go further and say, that the Imperial Government should have suggested to them the necessity of embracing in their consideration, not only the social interests of India as well, but the interests of the empire at large. It is now nearly three years ago, Sir, since the British Government entered into arrangements for extending our steam navigation beyond the Calcutta line, where it bears away for that city to the North, to China by the way of Singapore; and it is evident that at the time they contemplated another and still greater extension of it, by another branch, south-eastwards, from Singapore to Sydney in Australia. I cannot suppose that the present administration has abandoned this idea, and therefore it is quite unnecessary that I should dwell upon the paramount importance of such a scheme being carried out. The difficulty of governing any distant presidency from an executive department at home is, of course, proportionate to the time required for the transmission of colonial information and government directions; and commercial enterprise, in the like manner, is impeded or facilitated, as the means of communication between principals at home and their agencies abroad are slow and far between, or rapid and frequent. The East India merchants recognised the force of these observations in 1824, when they

offered a prize of 10,000*l.* to the owners of the first steam ship which should reach Calcutta from England *via* the Cape in 70 days; and Mr. Pitt, 40 years earlier, when he scouted the idea of lodging the Executive Government of India in England, until the time required for receiving information and returning instructions could be reduced to twelve months. I need not say with what urgency this applies to a vast dependency like Australia, which is still more distant from the parent country by one-fourth of the world's circumference, and which, from being comparatively in its infancy, requires the greatest care and the most constant superintendence.

Within the last year that indefatigable pilot and pioneer, who has done so much to map out for us by land and by water routes before unknown, and capable of affording a degree of dispatch before unimagined to our Eastern dominions, has originated* a

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* Lieutenant Waghorn is a remarkable example of genius triumphing over difficulties. He received but little encouragement in prosecuting his enterprize from the Government or the mercantile world, until by the most laborious perseverance he had demonstrated its practicability—had indeed in his own person accomplished it. It is just 20 years ago since he returned to England to advocate steam navigation to India, and he gives the following account of his reception in his lecture in Bath. "I unfortunately found the Chairman of the East India Company adverse to it. The Whig administration followed, and I was scouted as an enthusiast, and sometimes as a madman; for there is always great difficulty in conquering prejudice, and inducing people even to believe in what is for their own good, unless facts are placed before their eyes in a powerful light, and thrust as it were upon them." This reflection is only too just. Our merchants did nothing to set the enterprize on foot; and it is more

movement for the immediate extension of steam navigation from Singapore to Port Jackson. The distance is 4450 miles, which, calculating upon a speed of only 7 miles per hour, and allowing 42 hours for detention at Batavia, Port Errington, and Wednesday Island, would be traversed in about 28 days; but Lieutenant Waghorn is confident that the passage might be reduced to 21 days. From Singapore to Point de Galle, in Ceylon, the average passage of the Peninsular and Oriental Steam Packet Company's vessels is only 8 days, and from Point de Galle to Suez 17 days. The journey from Suez to London, however, occupies only about a week; so that, with all the present disadvantages of inefficient steam navigation on the Mediterranean, and the incompleteness of railway accommodation by way of Trieste, and the total absence of it by way of Marseilles, it would be possible to forward instructions to or receive information from Sydney in about 53 days, when the railway system through the Austrian dominions is complete and the steam navigation of the Adriatic more perfect, the same object may be accomplished in seven weeks, instead, as at present, in twenty! But, Sir, cast your eye over the map, not of India merely, but of the whole hemisphere to the East over which the sceptre of Great

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indebted to the spirit of liberality of the proprietors of the *Times* for its success than to the mercantile community, the East India Company, and the Government together.

Britain is extended. In tracing the nearest line overland and water to the furthest extremity of her dominions, do you perceive nothing which, though it has hitherto proved a geographical obstacle to our communication with our fellow subjects in the antipodes, may be made a stepping stone as it were to enable us to cross at a stride from the northern waters of the Indian ocean into the southern latitudes of the Bay of Bengal? Do you not perceive that a railway from Bombay to Madras is destined to be the last grand land-link of terraqueous communication by steam between the parent country and her trans-equatorial colonies in the East? This is a subject, Sir, of imperial importance, and not of mere Indian policy alone—although India would be largely benefitted by becoming a main section of the high road of transit and traffic between the East and the West—and therefore, although the Legislative Council of India have overlooked it, I can hardly suppose that it has escaped attention, or failed to excite the most serious interest at the Board of Control.

I leave these reflections, Sir, to you with the greatest respect.

J. WARD.

March 11, 1847.

THE END.

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